

CLAIMS

1. A resin composition containing ultrafine particles produced by mixing polymer-modified ultrafine particles in a resin, wherein the polymer-modified ultrafine particles are produced by modifying the surfaces of ultrafine particles with a polymer having a mercapto group at one end, and the polymer having a mercapto group at one end is produced by treating a polymer with a treating agent, the polymer being prepared by radical polymerization of a radically polymerizable unsaturated monomer in the presence of a thiocarbonylthio group-containing compound.

2. The resin composition containing ultrafine particles according to claim 1, wherein the thiocarbonylthio group-containing compound is represented by general formula (1):



(wherein R represents a monovalent organic group having 1 or more carbon atoms; Z represents a sulfur atom (when $p = 2$), an oxygen atom (when $p = 2$), a nitrogen atom (when $n = 3$), or a p -valent organic group having 1 or more carbon atoms; p represents an integer of 1 or more; and when p is 2 or more, R s may be the same or different).

3. The resin composition containing ultrafine particles according to claim 1 or 2, wherein the number-

average primary particle size of the ultrafine particles in an unaggregated state is 100 nm or less.

4. The resin composition containing ultrafine particles according to any one of claims 1 to 3, wherein 80% or more of the total of the ultrafine particles in the resin are independently present.

5. The resin composition containing ultrafine particles according to any one of claims 1 to 4, wherein the ultrafine particles are metal ultrafine particles and/or semiconductor ultrafine particles.

6. The resin composition containing ultrafine particles according to claim 5, wherein the ultrafine particles contain 10% by weight or more of at least one metal selected from the group consisting of gold, platinum, silver, palladium, rhodium, ruthenium, and cobalt.

7. The resin composition containing ultrafine particles according to claim 5, wherein the semiconductor ultrafine particles are particles of at least one compound selected from the group consisting of compounds each including a group 14 element and a group 16 element in the periodic table, compounds each including a group 13 element and a group 15 element in the periodic table, compounds each including a group 13 element and a group 16 element in the periodic table, compounds each including a group 12 element and a group 16 element in the periodic table, compounds each including a group 15 element and a group 16 element in

the periodic table, compounds each including a group 4 element and a group 16 element in the periodic table, and compounds each including a group 2 element and a group 16 element in the periodic table.

- 5 8. The resin composition containing ultrafine particles according to any one of claims 1 to 7, wherein the resin transmits visible light.

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